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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,880

11/12/2003

Shuibo Xie

1856-40401 (9948.0-02)

7375

31889

7590

11/27/2006

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EXAMINER

WARTALOWICZ, PAUL A

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/706,880

Applicant(s)

XIE ET AL.

Examiner

Paul A. Wartalowicz

Art Unit

1754

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 October 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-4, 6-13, 15-18, 20-23 and 25-32.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☒ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Attached.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____

11/21/06
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Continuation of 7)

The amendments as filed are not entered because the amendments entered would result in new consideration and would not put the case into better condition for appeal.

Continuation of 11)

The arguments are drawn to the amendment of claim 1; because this amendment was not entered, the arguments pertaining to the metal surface area will be treated as drawn to claims 4 and 18.

Applicant argues that surface area and metal surface area measure different properties of the catalyst. Also, chemisorption is used to determine the percent metal dispersion, active metal surface area, size of active particles and/or surface acidity of catalyst materials and that one can measure the active surface area and metal dispersion independently of the support or inactive components.

However, the Examiner acknowledges the difference between metal surface area and surface area. Metal surface is understood to be surface area of the catalytically active materials of the catalyst structure (i.e. noble metals). So if two catalyst structures have similar proportions of catalytically active metals to their respective entire catalyst structures, the two catalyst structures would have comparable metal surface area. Throughout the specification of the current invention, the catalytically active metal is present in an amount of 0.1 to 50 % by weight of the catalytic structure (paragraph 0036

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for example). In Hindin, the disclosure teaches that the catalytically active metal is present in an amount of 0.1 to 20 % by weight of the catalytic structure (col. 5, lines 40-45). From this disclosure, it would be expected the metal surface area is similar to that of the current invention. Furthermore, because in this example the support is dipped in the catalyst solution, it would also be expected that there is a substantial concentration of catalytically active material on the surface.

Applicant argues that a given metal content in catalyst compositions does not necessarily set the metal surface area of the same compositions and that the same catalyst compositions of examples 2 and 3 provided about a 3-fold difference in the resulting metal surface areas in these catalyst examples.

However, the amount of platinum metal group added to the support is in an amount of from 0.1 to 20 % by weight (col. 5, lines 37-44) and that the dispersion is maximized to achieve optimum activity of the catalyst (col. 5, lines 22-26). In addition, calcination takes place at above 850°C for the composite catalyst structure (column 1, Abstract). Because the dispersion is maximized and the surface area is 20 m²/g, the limitation of having a metal surface area of 0.35 m²/g is met by the prior art.

From this reasoned explanation the combination of the prior art references teach a substantially similar catalyst as that of the current invention such that properties of said catalyst of the prior art, loss of hydrocarbon conversion of no greater than about 3 % a day, for example, would be expected to be substantially similar to the properties of the current invention.

As to the motivation to combine Anumakonda, Isogaya, and Hindin; the motivation to combine these references is that all are drawn to a catalytic high temperature oxidation of hydrocarbons. Even if the products of the processes of the individual references are different, one would still be motivated to combine the references based upon the fact that the references are drawn to a catalytic high temperature oxidation of hydrocarbons. One of ordinary skill in the art would recognize that these three references are analogous art and it would be obvious to one of ordinary skill that the combination of these references renders the current invention obvious.

Applicant argues that at best one of skill in the art trying Hindin's catalyst in the process of Anumakonda under a pressure of 2 atm or more as taught in Isogaya's gasification process would not have a reasonable expectation to have a catalytic partial oxidation process with such hydrocarbon conversion maximum loss as recited in claim 1 and conversions at 2 atm or more as recited in claims 12 and 13.

However, the combination does not rely upon performing the gasification process of Isogaya with Hindin's catalyst. In response to applicant's argument that one of skill in the art trying Hindin's catalyst in the process of Anumakonda under a pressure of 2 atm or more as taught in Isogaya's gasification process would not have a reasonable expectation to have a catalytic partial oxidation process with such hydrocarbon conversion maximum loss as recited in claim 1 and conversions at 2 atm or more as recited in claims 12 and 13, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art

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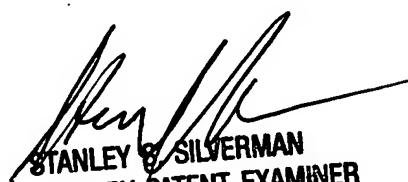
cannot be the basis for patentability when the differences would otherwise be obvious.

See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Applicant argues similarly for the combination of Feely with Anumakonda and Hindin.

However, for this rejection (Feely with Anumakonda and Hindin) Hindin is relied upon similarly. See the response to the arguments above for these arguments.

The evidence submitted (Micrometrics article) illustrates that the efficiency of a catalyst in promoting a chemical reaction is related directly to the density of active sites on its surface and that chem. Adsorption can be used to measure this properties. It is acknowledged that chem. Adsorption can be used to measure metal surface area.


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